

SPORTZ-1

ELECTRONICALLY CONTROLLED GAS-POWERED GUNS FOR FIRING PAINTBALLS

ABSTRACT OF THE DISCLOSURE

[001] An improved electronically controlled pneumatically operated paintball gun having more efficient air usage by means of a pneumatic piston valve with a directional tube vent. This pneumatic piston valve works on direct air pressure to open and close very quickly. The pneumatic piston valve has one moving part called the "piston valve". The piston valve works as a double acting cylinder. At one end of the piston valve is a seal that presses up against a valve seat. When low pressure air is applied to the opposite side of the piston valve assembly, the force created from air pressure forces the piston seal against the valve seat, closing a high-pressure chamber. When low pressure air is allowed to be released, force created by air pressure shifts the valve and forces the seal away from the valve seat. When the valve is opened, air is released from the high pressure chamber into a directional tube positioned directly behind the paintball, forcing the air to travel in a straight line before the air impacts the paintball. After the ball has been fired, low-pressure air is again transferred back to the original side of the piston, forcing the seal and valve seat closed once again. A pneumatic valve controls the flow of low-pressure air to the piston valve assembly. The time needed to transfer air through the pneumatic valve is adjustable through a circuit board.